

WHAT IS CLAIMED IS:

1. A print scanner, comprising:

a rotatable prism having a curved platen surface for receiving a print pattern;

an imaging assembly for capturing line scan images of the print pattern as said rotatable prism rotates relative to said imaging assembly during a live scan.

2. The print scanner of claim 1, wherein said rotatable prism comprises a cylindrical prism, and said curved platen surface is cylindrical.

3. The print scanner of claim 2, wherein said cylindrical prism has a hole region in a center region to accommodate a shaft, and further includes first and second tapered side face regions that extend from the cylindrical platen surface to said hole.

4. The print scanner of claim 3, wherein said imaging assembly includes:

an illumination source positioned at least partly within said first tapered side face region to provide light to illuminate the print pattern on at least a portion of said cylindrical platen surface.

5. The print scanner of claim 4, wherein said imaging assembly further includes:

an optical system positioned at least partly within said second tapered side face region to provide images of said print pattern on said cylindrical platen surface along an optical path to a linear sensor for capture in successive line scans as said cylindrical prism is rotated by a user during a live scan.

6. The print scanner of claim 5, further comprising a motion control system that provides a force to reduce the rotational speed of said cylindrical prism during a live scan.

7. The print scanner of claim 6, wherein said motion control system includes a shaft encoder and a drive motor.

8. A print scanner, comprising:

an arched prism having a curved platen surface for receiving a print pattern;

an imaging assembly for capturing line scan images of the print pattern, said imaging assembly being rotatable along a scan arc relative to said arched prism during a live scan.

9. The print scanner of claim 8, wherein said arched prism comprises two end faces and three arched side regions, said three arched side regions having an arch shape that curves along the direction of the scan arc, and one of said three arched side regions includes said curved platen surface.

10. The print scanner of claim 8, wherein said arched prism includes first, second and third arched side regions, each having an arch shape that curves along the direction of the scan arc, and said second arched side region includes said curved platen surface, and wherein said imaging assembly includes:

an illumination source positioned to inject light at said first arched side region to provide light to illuminate the print pattern on at least a portion of said cylindrical platen surface on said second arched side region.

11. The print scanner of claim 10, wherein said imaging assembly further includes an optical system and linear sensor, said optical system being positioned to direct light from said third arched side region to said linear sensor for capture in successive line scans as said imaging assembly is rotated relative to said arched prism during a live scan.